IN THE CLAIMS:

The status of all claims is as follows. No amendments are made by the present paper.

1.   (previously presented) A method for estimating input power in a cable modem device having a tuner and a modem, the modem having a receiver including an automatic gain control (AGC) circuit with an integrator outputting an accumulated error value, the method comprising the steps of:

inputting a plurality of calibration signals having known frequencies and input power levels into the receiver;

recording calibration data corresponding to each of said plurality of signals, said calibration data including an associated frequency, input power level and accumulated error value for each of said calibration signals;

generating a look-up table comprising an interpolated accumulated error value for each of a desired set of estimated input power levels and input frequencies using said calibration data; and

storing the look-up table in the modem.

2.   (previously presented) The method of claim 1, further comprising obtaining an estimated input power using a current input frequency and an interpolated accumulated error value that is closest to a current accumulated error value as inputs to said look-up table.

3-4.   (cancelled).

5.   (previously presented)The method of claim 1, wherein generating a look-up

table comprises interpolating additional calibration data using calibration data taken from

actual operation of said modem.

6.   (original)   The method of claim 5, wherein the interpolating step is

conducted using a first order equation.

7.   (original)   The method of claim 5, wherein the interpolating step is

conducted using a second order equation.

8 - 9. (cancelled)

10.   (previously presented)The method of claim 1, further comprising extrapolating

additional calibration data from the calibration data obtained from actual operation of said

modem.

11.   (original)   The method of claim 10, wherein the extrapolation step is

conducted using linear projection from a localized amplitude corresponding to a selected

calibration frequency.

12.   (original)   The method of claim 11, wherein the extrapolation step is repeated for each calibration frequency.

13.   (previously presented) The method of claim 1, wherein generating said look-up table further comprises rendering said calibration data as 8-bit data.

14-21. (cancelled)

22.   (previously presented) A cable modem device, comprising:

a tuner that tunes to an input signal;

a modem coupled to the tuner, the modem having a receiver with an automatic gain control (AGC) circuit and a memory; and

a look-up table stored in the memory, the look-up table comprising an interpolated accumulated error value for said AGC circuit for each of a desired set of estimated input power levels and input frequencies;

wherein said look-up table is used to compute an estimated input power to the receiver using a current input frequency and an interpolated accumulated error value that is closest to a current accumulated error value.

23.   (previously presented) The cable modem device of claim 22, wherein data in said look-up table is stored in the memory as 8-bit data.

24.   (cancelled)

25.   (previously presented)   The cable modem device of claim 22, wherein said look-up table is generated from actual operation of said modem.

26.   (previously presented) A method for estimating input power in a cable modem device having a tuner and a modem, the modem having a receiver including an automatic gain control (AGC) circuit with an integrator outputting an accumulated error value, the method comprising the steps of:

inputting a plurality of calibration signals having known frequencies and input power levels into the receiver;

recording calibration data corresponding to each of said plurality of signals, said calibration data including an associated frequency, input power level and accumulated error value for each of said calibration signals;

generating a look-up table comprising an interpolated accumulated error value for each of a desired set of estimated input power levels and input frequencies using said calibration data; and

storing the look-up table in the modem;

wherein generating a look-up table comprises interpolating additional calibration data using calibration data taken from actual operation of said modem; and

wherein the interpolating step is conducted using an audio tone.

27.   (previously presented)The method of claim 26, further comprising obtaining an estimated input power using a current input frequency and an interpolated accumulated error value that is closest to a current accumulated error value as inputs to said look-up table.

28.   (previously presented)The method of claim 26, further comprising extrapolating additional calibration data from the calibration data obtained from actual operation of said modem.

29.   (previously presented)The method of claim 28, wherein the extrapolation step is conducted using linear projection from a localized amplitude corresponding to a selected calibration frequency.

30.   (previously presented)The method of claim 29, wherein the extrapolation step is repeated for each calibration frequency.

31.   (previously presented)The method of claim 26, wherein generating said look-up table further comprises rendering said calibration data as 8-bit data.

32.   (previously presented)The method of claim 31, wherein generating said look-up table further comprises identifying a maximum value and a minimum value for frequency and input power level, wherein said maximum and minimum values are used to scale the 8-bit data.

33.   (previously presented) A method for estimating input power in a cable modem device having a tuner and a modem, the modem having a receiver including an automatic gain control (AGC) circuit with an integrator outputting an accumulated error value, the method comprising the steps of:

inputting a plurality of calibration signals having known frequencies and input power levels into the receiver;

recording calibration data corresponding to each of said plurality of signals, said calibration data including an associated frequency, input power level and accumulated error value for each of said calibration signals;

generating a look-up table comprising an interpolated accumulated error value for each of a desired set of estimated input power levels and input frequencies using said calibration data; and

storing the look-up table in the modem;

wherein generating a look-up table comprises interpolating additional calibration data using calibration data taken from actual operation of said modem; and

wherein the interpolating step is conducted using a known voltage variable amplifier curve.

34.   (previously presented) The method of claim 33, further comprising obtaining an estimated input power using a current input frequency and an interpolated accumulated error value that is closest to a current accumulated error value as inputs to said look-up table.

35.   (previously presented) The method of claim 33, further comprising extrapolating additional calibration data from the calibration data obtained from actual operation of said modem.

36.   (previously presented) The method of claim 35, wherein the extrapolation step is conducted using linear projection from a localized amplitude corresponding to a selected calibration frequency.

37.   (previously presented) The method of claim 26, wherein the extrapolation step is repeated for each calibration frequency.

38.   (previously presented) The method of claim 33, wherein generating said look-up table further comprises rendering said calibration data as 8-bit data.

39.   (previously presented) The method of claim 38, wherein generating said look-up table further comprises identifying a maximum value and a minimum value for frequency and input power level, wherein said maximum and minimum values are used to scale the 8-bit data.

40.   (previously presented) A method for estimating input power in a cable modem device having a tuner and a modem, the modem having a receiver including an automatic gain

control (AGC) circuit with an integrator outputting an accumulated error value, the method comprising the steps of:

inputting a plurality of calibration signals having known frequencies and input power levels into the receiver;

recording calibration data corresponding to each of said plurality of signals, said calibration data including an associated frequency, input power level and accumulated error value for each of said calibration signals;

generating a look-up table comprising an interpolated accumulated error value for each of a desired set of estimated input power levels and input frequencies using said calibration data; and

storing the look-up table in the modem.

wherein generating said look-up table further comprises identifying a maximum value and a minimum value for frequency and input power level, wherein said maximum and minimum values are used to scale data in said look-up table.

41.   (previously presented) The method of claim 40, further comprising obtaining an estimated input power using a current input frequency and an interpolated accumulated error value that is closest to a current accumulated error value as inputs to said look-up table.

42.   (previously presented) The method of claim 40, wherein generating a look-up table comprises interpolating additional calibration data using calibration data taken from actual operation of said modem.

43.   (previously presented) The method of claim 42, wherein the interpolating step is conducted using a first order equation.

44.   (previously presented) The method of claim 42, wherein the interpolating step is conducted using a second order equation.

45.   (previously presented) The method of claim 42, wherein the interpolating step is conducted using an audio tone.

46.   (previously presented) The method of claim 42, wherein the interpolating step is conducted using a known voltage variable amplifier curve.

47.   (previously presented) The method of claim 40, further comprising extrapolating additional calibration data from the calibration data obtained from actual operation of said modem.

48.   (previously presented) The method of claim 47, wherein the extrapolation step is conducted using linear projection from a localized amplitude corresponding to a selected calibration frequency.

49.   (previously presented) The method of claim 48, wherein the extrapolation step is repeated for each calibration frequency.

50.   (previously presented) The method of claim 40, wherein generating said look-up table further comprises rendering said calibration data as 8-bit data.

51.   (previously presented) A cable modem device, comprising:

a tuner that tunes to an input signal;

a modem coupled to the tuner, the modem having a receiver with an automatic gain control (AGC) circuit and a memory; and

a look-up table stored in the memory, the look-up table comprising an interpolated accumulated error value for each of a desired set of estimated input power levels and input frequencies;

wherein said look-up table is used to compute an estimated input power to the receiver using a current input frequency and an interpolated accumulated error value that is closest to a current accumulated error value; and

wherein the memory also contains a maximum value and a minimum value for input frequency and input power level, wherein said maximum and minimum values are used to scale data in said look-up table.

52.   (previously presented) The cable modem device of claim 51, wherein data in said look-up table is stored in the memory as 8-bit data.

53.   (previously presented)   The cable modem device of claim 51, wherein said look-up table is generated from actual operation of said modem.

54.   (previously presented)A method for estimating input power in a cable modem device having a tuner and a modem, the modem having a receiver including an automatic gain control (AGC) circuit with an integrator outputting an accumulated error value for said AGC, the method comprising the steps of:

inputting a plurality of calibration signals having known frequencies and input power levels into the receiver;

recording calibration data corresponding to each of said plurality of signals, said calibration data including an associated frequency, input power level and accumulated error value for said AGC for each of said calibration signals;

generating a look-up table comprising an interpolated accumulated error value for said AGC for each of a desired set of estimated input power levels and input frequencies using said calibration data; and

storing the look-up table in the modem.